APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/718,129	11/20/2003	Norival R. Figueira	14715SSUS03U	9076

34645	7590	06/28/2007

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ART UNIT	PAPER NUMBER
2616	

MAIL DATE	DELIVERY MODE
06/28/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>20 November 2003</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>20 November 2003</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Specification

1.   The disclosure is objected to because of the following informalities: Page 14, Paragraph 51 references LRS by numeral 18 as seen in Fig. 6. However, Fig. 6 does not have a reference numeral 18.

Appropriate correction is required.

Claim Rejections - 35 USC § 101

2.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 10-14 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. A protocol data unit is a data structure, which is an abstract idea since it's a mere arrangement of data (See MPEP 2106.01).

Claim Rejections - 35 USC § 102

3.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4.   Claims 1, 3, 5, 6, 10, 12 are rejected under 35 U.S.C. 102(e) as being anticipated by Schaub et al. (USPN 7,190,695).

Regarding claim 1, Schaub teaches a method of forwarding frames on a communication network **[Abstract]**, comprising the steps of: receiving a frame at a first switch **[Fig. 5, 536]**;

extracting frame contained destination information from the received frame [**Col. 7, lines 47-56**];

ascertaining from frame contained destination information an output port on the switch [**Col. 8,**

lines 59-67 – Col. 9, lines 1-4]; and transmitting the frame from the output port [**Fig. 5, 522**].

Regarding claim 3, Schaub teaches destination information comprises a portion of a

MAC address [**Col. 7, lines 49-56**].

Regarding claim 5, Schaub teaches extracting comprises reading a field of the MAC

address [**Col. 7, lines 47-56**] and wherein ascertaining comprises using information in the field to

identify the output port [**Col. 8, lines 59-67 – Col. 9, lines 1-4**].

Regarding claim 6, Schaub teaches reading at least a second field of the MAC address

[**Col. 7, lines 47-56, source address is the second field of the MAC address**].

Regarding claim 10, Schaub teaches a protocol data unit [**Fig. 1, packets**], comprising: a

first field containing first destination information [**Col. 7, lines 47-56**] for use by a first switch to

identify a first output port on the first switch [**Col. 8, lines 59-67 – Col. 9, lines 1-4**]; and a

payload portion [**Col. 3, lines 12-15, each packet has data portion**].

Regarding claim 12, Schaub teaches the protocol data unit is a frame, and the first field

is contained in a Media Access Control (MAC) address associated with the frame [**Col. 7, lines**

47-56].

5.   Claims 15, 16, 19, 23 are rejected under 35 U.S.C. 102(e) as being anticipated by Pearce

et al. (USPN 6,556,574).

Regarding claim 15, Pearce teaches a method of assigning a Media Access Control

(MAC) address to an interface on a network [**Col. 14, lines 44-47**], comprising: setting a local bit

in the MAC address to indicate to network elements on the network that the MAC address is

locally assigned **[Col. 14, lines 44-47]**; and assigning a first value to a first field of the MAC

address, the first value containing first output interface information usable by a first switch to

identify a first output interface for transmission of frames containing the MAC address **[Col. 20,**

lines 10-18].

Regarding claim 16, Pearce teaches collecting the first output interface information from

the first switch **[Col. 20, lines 10-18]**.

Regarding claim 19, Pearce teaches transmitting the MAC address to a network device

containing the interface to which the MAC address has been assigned **[Col. 11, lines 29-34]**.

Regarding claim 23, Pearce teaches a method of performing Local Media Access

Control (MAC) Address (LMA) resolution on a network **[Abstract]**, the method comprising the

steps of: receiving an LMA address resolution request **[Abstract]**; and forwarding the LMA

address resolution request to an LMA address resolution server to identify an LMA associated

with the LMA address resolution request **[Col. 23, lines 24-35]**.

Claim Rejections - 35 USC § 103

6.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

7.   Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schaub et al.

(USPN 7,190,695) in view of Manur et al. (USPN 7,190,696).

Regarding claim 2, Schaub teaches a method as discussed in rejection of claim 1.

However, Schaub does not teach reading a portion of a header of the frame and causing

the frame to be passed directly to the output port.

Manur teaches reading a portion of a header of the frame **[Fig. 8, 230]** and causing the

frame to be passed directly to the output port **[Fig. 8, 238]**.

It would have been obvious to one of ordinary skill in the art at the time the invention

was made to pass the frame directly to the output port to so that identification of next-hop egress

port can be done directly via the destination address **[Col. 10, lines 29-32]**.

8.   Claims 4, 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schaub et al.

(USPN 7,190,695) in view of Dobson (USPN 6,891,887).

Regarding claims 4, 13, Schaub teaches a method, a protocol data unit as discussed in

rejection of claims 3, 12.

However, Schaub does not teach the MAC address is a local destination MAC address.

Dobson teaches the MAC address is a local destination MAC address **[Col. 8, lines 35-**

37].

It would have been obvious to one of ordinary skill in the art at the time the invention

was made to have a local destination MAC address so that all the frames that do not correspond

to their MAC address can be discarded **[Col. 8, lines 38-40]**.

9.   Claims 7, 8, 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schaub et

al. (USPN 7,190,695) in view of Ohgane (USPN 6,707,814).

Regarding claim 7, Schaub teaches a method as discussed in rejection of claim 3.

However, Schaub does not teach destination information comprises a local MAC address having at least two fields, the first field containing information for the first switch and the second field containing information for a second switch connected to an interface of the first switch.

Ohgane teaches destination information comprises a local MAC address having at least two fields, the first field containing information for the first switch and the second field containing information for a second switch connected to an interface of the first switch [**Fig. 2A, 2B, multiple cells each having MAC address for other destinations are included in 20a, Col. 7, lines 15-18**].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have multiple fields containing multiple MAC addresses for multiple switches for broadcast service [**Col. 6, lines 64-67 – Col. 7, line 1**].

Regarding claim 8, Schaub teaches extracting comprises reading the first and second fields [**Col. 7, lines 47-56**].

Regarding claim 11, Schaub teaches the protocol data unit as discussed in rejection of claim 10.

However, Schaub does not teach protocol data unit has a second field containing second destination information for use by a second switch to identify a second output port on the second switch.

Ohgane teaches the protocol data unit has a second field containing second destination information for use by a second switch to identify a second output port on the second switch [**Fig. 2A, 2B, multiple cells each having MAC address for other destinations are included in 20a, Col. 7, lines 15-18**].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have multiple fields containing multiple MAC addresses for multiple switches for broadcast service **[Col. 6, lines 64-67 – Col. 7, line 1]**.

10.   Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schaub et al. (USPN 7,190,695) in view of Ohgane (USPN 6,707,814) as applied to claim 8 above, and further in view of Tursich (USPN 6,671,828).

Regarding claim 9, the references teach a method as discussed in rejection of claim 8.

However, the references do not teach comparing information in the second field with expected information, and selecting as the output port the output port on the first switch that is connected to second switch if the information in the second field does not match the expected information.

Tursich teaches comparing information in the second field with expected information, and selecting as the output port an output port on the first switch that is connected to second switch if the information in the second field does not match the expected information **[Fig. 3]**.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to select the output port if the information does not match the expected information so that packet could be transferred and the source address can also be learned **[Col. 4, lines 27-30]**.

11.   Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schaub et al. (USPN 7,190,695) in view of Dobson (USPN 6,891,887) as applied to claim 13 above, and further in view of Yazaki et al. (USPN 6,970,470).

Regarding claim 14, the references teach a protocol data unit as discussed in rejection of claim 13.

However, the references do not teach the protocol data unit has a third field containing third destination information for use by a network device to enable the network device to select particular frames from a stream of frames.

Yazaki teaches the protocol data unit has a third field containing third destination information for use by a network device to enable the network device to select particular frames from a stream of frames **[Fig. 6, 611]**.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have a third destination information field to select particular frames from a stream of frames so that priority to frames can be assigned and only selected frames are forwarded **[Col. 6, lines 59-64]**.

12.   Claims 17, 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pearce et al. (USPN 6,556,574) in view of Ohgane (USPN 6,707,814).

Regarding claim 17, Pearce teaches a method as discussed in rejection of claim 15.

However, Pearce does not teach assigning a second value to a second field of the MAC address, the second value containing second output interface information usable by a second switch to identify a second output interface for transmission of frames containing said MAC address.

Ohgane teaches assigning a second value to a second field of the MAC address, the second value containing second output interface information usable by a second switch to

identify a second output interface for transmission of frames containing said MAC address **[Fig. 2A, 2B, multiple cells each having MAC address for other destinations are included in 20a, Col. 7, lines 15-18]**.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have multiple fields containing multiple MAC addresses for multiple switches for broadcast service **[Col. 6, lines 64-67 – Col. 7, line 1]**.

Regarding claim 18, Pearce teaches collecting the output interface information from the switch **[Col. 20, lines 10-18]**.

13.   Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pearce et al. (USPN 6,556,574) in view of Ocepek et al. (USPN 7,124,197).

Regarding claim 20, Pearce teaches a method as discussed in rejection of claim 19.

However, Pearce does not teach setting the network device in promiscuous mode to cause the network device to receive MAC address.

Ocepek teaches setting the network device in promiscuous mode to cause the network device to receive MAC address **[Col. 9, lines 31-35]**.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to set the device in promiscuous mode to receive MAC address since in this mode all data will be received regardless of device's MAC address **[Col. 9, lines 31-35]**.

14.   Claims 21, 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pearce et al. (USPN 6,556,574) in view of Fijolek et al. (USPN 7,107,326).

Regarding claim 21, Pearce teaches a method as discussed in rejection of claim 15.

However, Pearce does not teach assigning a second field of the MAC address according to a prefix of the first switch.

Fijolek teaches assigning a second field of the MAC address according to a prefix of the first switch **[Col. 15, lines 14-15]**.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to assign a prefix to MAC address to restrict access for certain network devices **[Col. 15, lines 12-14]**.

Regarding claim 22, Fijolek teaches the prefix is a portion of all local MAC addresses that are reachable through the first switch **[Col. 15, lines 20-24]**.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the prefix that indicates all local MAC addresses that are reachable to enable filtering by a system administrator **[Col. 15, lines 20-24]**.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chandrahas Patel whose telephone number is 571-270-1211. The examiner can normally be reached on Monday through Thursday 7:30 to 17:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on 571-272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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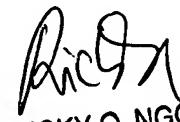
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